

**Notice of Allowability**

Application No.

10/665,364

Examiner

Hung Henry V Nguyen

Applicant(s)

KOREN ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/22/2003.
2. ☒ The allowed claim(s) is/are 1-137.
3. ☒ The drawings filed on 22 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

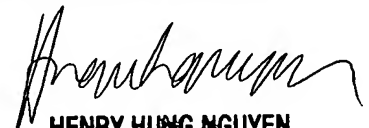
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 5.3.2/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
**HENRY HUNG NGUYEN**  
**PRIMARY EXAMINER**

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. U.S. Application having serial number 10/665,404 filed September 22, 2003, cited on the IDS submitted February 3, 2004 has been noted and has been placed in the application filed but has been crossed out in the form PTO 1449 since it is not published patent document.

### ***Reasons for Allowance***

2. The following is an examiner's statement of reasons for allowance:

Claims 1-46, 91-137 have been found to be allowable since while the prior art of record teaches an alignment system having two separate and identical alignment systems arranged to receive alignment radiation from alignment marks formed on the mask and the substrate but the prior art of record either alone or in combination, neither discloses nor makes obvious the combination of an alignment system and corresponding lithographic apparatus having a detection system with a first wavelength channel, and a second wavelength channel for receiving alignment radiation at the first wavelength and second wavelength respectively, along with a position determining unit having specific function for processing information from the first and second wavelength channels to determine a position of the alignment mark, as recited in the above claims.

Claims 47-90 have been found to be allowable since a method of determining an alignment mark/or grid on a substrate comprising: a first step for irradiating a plurality of alignment marks with alignment radiation having at least two different wavelengths; a second

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step for detecting radiation from the alignment mark or detecting radiation from each of the plurality of alignment marks at a first wavelength of the at least two different illumination wavelengths; a third step for detecting radiation from the alignment mark or from each of the plurality of alignment marks at a second wavelength of the at least two different illumination wavelengths and a fourth step for determining the position of alignment mark/or the alignment grid based on information from the detecting at the first and second illumination wavelength, is not disclosed in any of the prior art of record, and appears to be non-obvious to a person skilled in the art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Prior Art Made of Record***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hagiwara (U.S.Pat. 5,381,210); Dirken et al (U.S.Pat. 6,160,622) ; Mitzutani (U.S.Pat. 5,995,198) and Shiraishi (U.S.Pat. 6,285,455) discloses alignment apparatus and lithographic apparatuses and have been cited for technical background.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Hung Henry V Nguyen**  
**Primary Examiner**  
**Art Unit 2851**

hvn  
9/7/04